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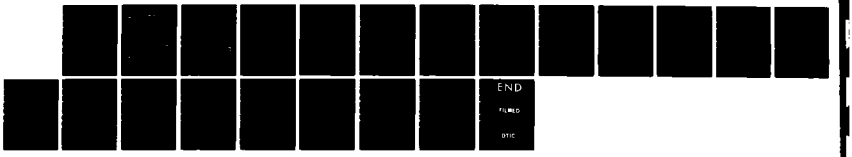

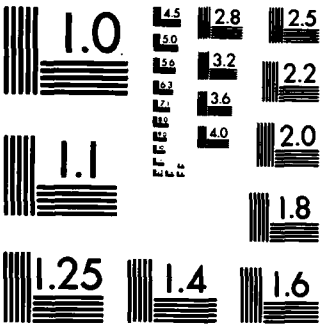

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NAVY MENTAL HEALTH INFORMATION SYSTEM (NAMHIS): A PSYCHIATRIC APPLICATION OF COSTAR

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SUMMARY

The Navy Mental Health Information System, NAMHIS, is a comprehensive, automated recordkeeping and reporting system designed to meet the needs of clinicians and administrators in Outpatient Navy Mental Health Clinics. The public domain version of the Computer Stored Ambulatory Record, COSTAR, was extensively modified to fulfill the software requirements of NAMHIS and covers the five system functions: Patient Registration, Encounter Data, Patient History, Mental Status Examination and Reporting capability. Data collection forms have been developed, along with standardized reports of individual patient/clinician consultations.

Introduction

A standardized outpatient mental health recordkeeping and reporting system has been developed by the Naval Health Research Center (NHRC), San Diego to serve as the basis for a comprehensive, automated Navy Mental Health Information System (NAMHIS). NAMHIS has been designed to meet the information requirements of clinicians and administrators in Navy mental health, including timely reports of patient consultations, management data, and medical audit and utilization review procedures prescribed by medical quality assurance and accreditation programs.[1] NAMHIS captures, stores, displays and prints relevant, complete, and standardized information so that it is immediately and perpetually accessible. Further, the system has the capability to generate required reports in a timely manner, tabulate population statistics, and answer research queries far more accurately and efficiently than any of these tasks can be accomplished manually.[2] The Computer Stored Ambulatory Record (COSTAR) software has been adapted to serve as the vehicle for automation of NAMHIS and accommodates the specific data requirements of Navy outpatient mental health.

Background

Clinicians in outpatient Navy Fleet Mental Health Support Units (FMHSUs) typically engage in triage, brief assessment, and crisis intervention.[3] Most outpatient FMHSU patients are only seen for a single visit from which the referral source desires a report in a timely manner to use in making decisions concerning the patient's status.[4] Efficient and effective performance of these tasks depends upon the prompt acquisition and availability of specific patient information that is not routinely included in Navy medical records in an organized, complete fashion. The patient must be identified, the presenting problem described, fitness for duty must be determined and documented, and recommendations for subsequent clinical management and disposition made. To accomplish all of this, information must be collected from service records, medical records, telephone conversations with the referral source, the clinician's evaluation, and results of any medical or psychological tests. A report of consultation then is generated, using the information gathered, which is sent back to the referral source, and a copy is retained at the FMHSU. Coincidentally, the information must be documented on patient visits that facilitates systematic and comprehensive reporting and that satisfies the requirements of medical audit utilization review procedures. The importance and complexity of these data requirements has exceeded the capability of the Navy's manual mental health recordkeeping procedures. Before the design and development of NAMHIS, no comprehensive system existed within Navy mental health services for collecting and processing administrative and clinical information obtained from individual patients or from patient visits.

NAMHIS Design and Devleopment

The NAMHIS project began with two pilot studies investigating Fleet Mental Health Support Units in the San Diego region. The first study analyzed reporting requirements and documented the need for a standardized Navy outpatient mental health reporting system.[5] The second study involved the design and pilot testing of a prototype recordkeeping system at a single Fleet Mental Health Support Unit.[6] Data collection instruments developed for the recordkeeping system were utilized over a nine-month period. Based on the data collected and the results of the pilot study, the forms were revised and used to collect data at all four FMHSUs in the San Diego region over a ten-month period.

A subsequent study analyzed these data to compare patient characteristics, diagnostic patterns, referral sources, and dispositions among the four FMHSUs.[4]

At this point in the project, it was decided to formalize and expand the outpatient mental health recordkeeping and reporting system, and then to automate it to form the Navy Mental Health Information System (NAMHIS). The pilot studies had provided a great deal of information on the workings of the Navy outpatient mental health system. However, a more detailed understanding of this system was a necessary basis for the development of the comprehensive NAMHIS. Consequently, a systems analysis of the four San Diego region FMHSUs was performed. It was learned that the content of the patient information collected and the procedures used to record, process, and report this information were somewhat different for each clinic. The resulting strategy for the development of NAMHIS was to provide a system which would standardize procedures as much as possible and further the early implementation of quality assurance guidelines. At the same time, the necessary flexibility would be retained to accommodate the variability noted in patient populations and presenting problems from clinic to clinic.

Phase I of the NAMHIS project--needs assessment and systems analysis--was now complete. The next step was to design NAMHIS and to generate specifications for software development. Data collection forms and an efficient system utilizing these instruments in data collection had to be developed, along with standardized reports of individual patient/clinician consultations and summary statistical reports involving the entire clinic population. Thus, Phase II consisted of system design and specifications generation.

In Phase III, the actual development of NAMHIS took place. The Computer Stored Ambulatory Record (COSTAR) software was chosen as the vehicle for automating NAMHIS because of its suitability, flexibility, and adaptability in outpatient settings. The public domain version of COSTAR served as a starting point for the development of NAMHIS. This basic software has been extensively modified for use in Navy psychiatric outpatient settings through a team effort representing psychiatry, clinical psychology, mental health administration, and computer science. Every effort was made to make the system easy to use. A users' reference manual was prepared and tailored to NAMHIS characteristics along with a set of job aids that facilitate the work flow in a fleet mental health support unit.

NAMHIS System Description

The system description of NAMHIS covers the following five system functions: Patient Registration, Encounter Data, Patient History, Mental Status Examination, and Reporting Capability.

Patient Registration

Before any encounter data can be entered into the patient's medical record in NAMHIS, the patient must be registered. Each new patient completes the Patient Registration Form shown in Figure 1. The Patient Registration Form contains basic identifying information and demographic data. Only two registration data items require assistance from staff--the Suffix to Social Security Number and the patient's Enlisted Rating or Officer Category. The Suffix is a 2-digit CHAMPUS code that defines the patient's position in his or her family structure. For example, 20 means Uniformed Service Member (Sponsor). It is the sponsor's Social Security Number (SSN) that is recorded. The SSN and Suffix constitute a unique patient identifier and is used as the unit number in COSTAR.

MENTAL HEALTH CARE

PATIENT REGISTRATION FORM

THIS FORM TO BE COMPLETED BY THE PATIENT. RESPOND TO ALL ITEMS. PLEASE PRINT.

1. PATIENT NAME

LAST NAME _____ FIRST NAME _____ M.I. ___

2. SEX

☐ (M) Male ☐ (F) Female

3. DATE OF BIRTH

___ / ___ / ___
MONTH DAY YEAR

4. DUTY STATION *If DEPENDENT or CIVILIAN, print home address.*

_____

CITY _____ STATE _____ ZIP CODE _____

5. SOCIAL SECURITY NUMBER *(SSN)*

___ - ___ - ____

SSN SUFFIX *(Office use.)* ___

6. TODAY'S DATE *(Date of Registration.)*

___ / ___ / ___
MONTH DAY YEAR

7. ETHNIC BACKGROUND

☐ (W) White
☐ (OR) Oriental
☐ (H) Hispanic
☐ (B) Black
☐ (F) Filipino or Malayan
☐ (N) Native American
☐ (OT) Other

8. MARITAL STATUS

☐ (N) Never married
☐ (M F) Married first time
☐ (M O) Married other than first
☐ (S) Separated
☐ (D) Divorced
☐ (W) Widowed

9. PATIENT STATUS

☐ (A) Active duty
☐ (D S) Dependent spouse
☐ (D C) Dependent child
☐ (R) Retired
☐ (O) Other

10. BRANCH OF SERVICE

☐ (USN) USN or USNR
☐ (USM) USMC
☐ (USC) USCG
☐ (O) Other/Does not apply

11. PAYGRADE OR RANK *Check appropriate box.*

If *Dependent*, check here ☐ (D) If *Nondependent Civilian*, check here ☐ (CI)

☐ E1 ☐ E2 ☐ E3 ☐ E4 ☐ E5 ☐ E6 ☐ E7 ☐ E8 ☐ E9
☐ W1 ☐ CW2 ☐ CW3 ☐ CW4
☐ O1 ☐ O2 ☐ O3 ☐ O4 ☐ O5 ☐ O6 ☐ O7 ☐ O8 ☐ O9 ☐ O10

12. DATE FIRST CAME ON ACTIVE DUTY
Ignore if Dependent or Civilian.

___ / ___ / ___
MONTH DAY YEAR

13. IN RECRUIT TRAINING?
Ignore if Dependent or Civilian.

☐ (Y) Yes ☐ (N) No

14. ENLISTED RATING OR OFFICER CATEGORY *Enter one from chart with assistance from staff. Ignore if Dependent or Civilian.*

_____

NHRC 6320-30.1A (01-84)

Figure 1

A table of all Navy Enlisted Ratings and Officer Categories has been constructed in NAMHIS and tied to the COSTAR code for Item 14 on the Patient Registration Form. This feature makes it possible to selectively retrieve patient data for occupations considered at risk for psychiatric stress, an important capability for conducting Navy mental health research. If data on enlisted ratings and officer categories were to be stored in NAMHIS as free text entries, standardized data retrieval would be virtually impossible.

The COSTAR registration prompt sequence in NAMHIS follows the sequence of data items shown on the Patient Registration Form, making data entry straightforward, easy, and fast. The characters in parentheses next to each box on the Patient Registration Form are what the data entry clerk types into NAMHIS. The usual COSTAR help features have been incorporated, and customized user documentation and job aids are also available.

Encounter Data

Two forms are used in NAMHIS for collecting and entering encounter data--an Initial Encounter Form (see Figure 2) and a Follow-Up Encounter Form. The Follow-Up Encounter Form contains a subset of the data items collected at the initial encounter. Some data items (e.g., referral source and precipitating problems and symptoms) need only be collected during the first visit, and never again. Consequently, these items do not appear on the Follow-Up Encounter Form.

The Encounter Forms are divided into two sections: the Technician Section and the Clinician Section. Items in the Technician Section are those that do not require a high level of clinical expertise to complete. This leaves the clinician (psychiatrist or psychologist) free to address only those items necessitating the use of trained clinical judgment (e.g., diagnosis and disposition). With the patient completing the Registration Form, the responsibility for data collection is divided three ways. This efficient procedure maximizes the "labor resources" available to a fleet mental health support unit.

It is mandatory for the clinician to record a primary diagnosis on the Encounter Forms. This diagnosis is taken from the Diagnostic and Statististical Manual of Mental Disorders published by the American Psychiatric Association (DSM-III).[7] All of the DSM-III diagnoses have been added to the COSTAR Directory, and the corresponding DSM-III codes have been entered in the Directory as abbreviated names, thus facilitating data entry. A translation directory containing all of the DSM-III diagnoses and codes has also been incorporated into NAMHIS.

The standard COSTAR header prompts in encounter data entry have been modified in NAMHIS to segregate patient history data and mental status examination data according to either type. This segregation makes it possible to retrieve and print either class of data by themselves as a separate encounter report.

Patient History

Criteria for the patient history module in NAMHIS were established through a review of existing standardized patient history forms and by consultation with Navy clinicians. Emphasis was placed on thoroughness and relevance for use in a Navy outpatient mental health facility. The NAMHIS Patient History Form (see Figure 3) is divided into 11 sections typically considered important to a clinical interview: family history, childhood history, school history, interpersonal adjustment history, civilian arrests, past vocational history, drug/alcohol history, current marriage

MENTAL HEALTH CARE

INITIAL ENCOUNTER FORM

THIS SECTION TO BE COMPLETED BY THE TECHNICIAN. ANSWER EACH ITEM. PLEASE PRINT.

PATIENT NAME

LAST NAME _____ FIRST NAME _____ M.I. ___

SEX

☐ (M) Male ☐ (F) Female

DATE OF BIRTH

___ ___ / ___ ___ / ___ ___
MONTH DAY YEAR

DATE OF ENCOUNTER

___ ___ / ___ ___ / ___ ___
MONTH DAY YEAR

CLINICIAN No. 1

CODE: ___ ___ ___

CLINICIAN No. 2

CODE: ___ ___ ___

SITE CODE *Check only one.*

- ☐ (A) NAS North Island
- ☐ (B) Naval Station San Diego
- ☐ (C) Naval Training Center San Diego
- ☐ (D) NAS Miramar
- ☐ (E) San Diego Naval Hospital
- ☐ (O) Other

TYPE OF PRINCIPAL SERVICE PROVIDED *(Evaluation/Psychotherapy) Check only one.*

- ☐ (A) Suitability or fitness for duty
- ☐ (B) Special program screening
- ☐ (C) Psychometric testing
- ☐ (D) Fit for confinement
- ☐ (E) Medical Board
- ☐ (F) Sanity hearing
- ☐ (G) NAB or RAB
- ☐ (H) Individual therapy
- ☐ (I) Group therapy
- ☐ (J) Couple/family therapy
- ☐ (K) Relaxation therapy
- ☐ (L) Other screening
- ☐ (O) Other

VISIT CLASSIFICATION

- ☐ (1) Routine initial visit
- ☐ (2) 72 hr. initial visit
- ☐ (3) Emergency initial visit (clinical)
- ☐ (4) Emergency initial visit (admin.)

1. DATE CONSULT RECEIVED OR APPOINTMENT REQUESTED (DCR*)

___ ___ / ___ ___ / ___ ___
MONTH DAY YEAR

2. WHO REFERRED PATIENT TO PSYCH? *Check only one.* (RF-)

- ☐ (A) Dispensary sick call
- ☐ (B) Other medical service/Hospital
- ☐ (C) Command/Command sick call
- ☐ (D) Brig/Brig sick call
- ☐ (E) Chaplain
- ☐ (F) Self
- ☐ (G) Legal Officer
- ☐ (O*) Other: _____

3. SPECIAL PROGRAM SCREENING *Check only one.* (SPS-)

- ☐ (A) None
- ☐ (B) Submarine duty
- ☐ (C) UDT, SEAL or Diving
- ☐ (D) PRP
- ☐ (E) Deepfreeze
- ☐ (F) Company Commander or Drill Instructor
- ☐ (O*) Other: _____

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[CONTINUE ON REVERSE]

Figure 2

THIS SECTION TO BE COMPLETED BY THE CLINICIAN. PLEASE RESPOND TO ALL ITEMS.

4. PRECIPITATING PROBLEMS AND SYMPTOMS *Rate patient on applicable items by circling the appropriate number: 1 = Mild, 2 = Moderate, 3 = Severe. If a problem or symptom is of Short Duration, write S/ to the left of the letter code corresponding to the item.*

DPR	– 1 2 3 Depression	LN	– 1 2 3 Loneliness
AXY	– 1 2 3 Anxiety	SCID	– 1 2 3 Suicide Ideation
DLP	– 1 2 3 Disciplinary/Legal Problem	SGES	– 1 2 3 Suicide Gesture
ALCA	– 1 2 3 Alcohol Abuse	SCAT	– 1 2 3 Suicide Attempt
DGB	– 1 2 3 Drug Abuse	HCID	– 1 2 3 Homidical Ideation
ETD	– 1 2 3 Eating Disorder	HBR	– 1 2 3 Homicidal Behavior
SLD	– 1 2 3 Sleep Disorder	MDN	– 1 2 3 Moodiness
SXP	– 1 2 3 Sexual Problem	NRV	– 1 2 3 Nervousness
MFP	– 1 2 3 Marital/Family Problem	TMP	– 1 2 3 Temper Outbursts
IPM	– 1 2 3 Interpersonal Problem	EXW	– 1 2 3 Excess Worry
PNL	– 1 2 3 Problem with Navy Life	CSP	– 1 2 3 Crying Spells
JP	– 1 2 3 Job Problem	LSE	– 1 2 3 Loss of Energy/Interest
WD	– 1 2 3 Wants Discharge	SLP	– 1 2 3 Sleep Impairment
BB	– 1 2 3 Bizarre Behavior	APT	– 1 2 3 Appetite Impairment
SCP	– 1 2 3 Somatic Complaint	PPO*	– 1 2 3 Other:_____
HSK	– 1 2 3 Homesickness	NPL	Non Applicable

CODE: COMMENTS: _____

CODE: COMMENTS: _____

CODE: COMMENTS: _____

5. SERVICE RECORD REVIEWED? (SRR-)

☐ (Y) Yes ☐ (N) No ☐ (L) Lost or not accessible

6. HEALTH RECORD REVIEWED? (HRR-)

☐ (Y) Yes ☐ (N) No ☐ (L) Lost or not accessible

7. CONSULT FORM REVIEWED? (CFR-)

☐ (Y) Yes ☐ (N) No ☐ (L) Lost or not accessible

8. PRIMARY DIAGNOSIS

AXIS 1 - ___ ___ ___ . ___ ___ * AXIS 2 - ___ ___ ___ . ___ ___ *

CODE: COMMENTS: _____

CODE: COMMENTS: _____

9. DISPOSITION *Check only one.* **(DSP-)**

☐ (Q) Fit for full duty ☐ (S) Unfit for duty ☐ (U) Deferred

☐ (R) Unsuitable ☐ (T) Limited duty ☐ (V) Dependent - does not apply

COMMENTS: _____

10. RECOMMENDATION *Check ALL that apply.*

ALCR	☐ Alcohol rehabilitation	CHM	☐ CHAMPUS
DRGR	☐ Drug rehabilitation	ADSEP	☐ Administrative separation
CAAC	☐ CAAC	MB	☐ Medical Board
HSP	☐ Admit to hospital	FSC	☐ Family Service Center
OTX	☐ Return for outpatient treatment	NFU	☐ No follow-up indicated
FEVL	☐ Return for further evaluation	RCO*	☐ Other:_____

CODE: COMMENTS: _____

CODE: COMMENTS: _____

11. SPECIAL PROGRAM SCREENING RESULTS *Check one only.* **(SPSR-)**

☐ (A) Qualified ☐ (C) Deferred

☐ (B) Disqualified ☐ (D) Does not apply

BRIEF COMMENTS (BRC*) *For comments pertaining to particular items, list code/associated comment.*

_____

_____

_____

Figure 2 (Cont'd)

NAMHIS PATIENT HISTORY FORM

NAVY MENTAL HEALTH INFORMATION SYSTEM (NAMHIS)
NAVAL HEALTH RESEARCH CENTER
SAN DIEGO

PATIENT'S NAME: _____
LAST FIRST M.I.

Sex: a) Male b) Female Date of Birth: (MM DD YY) __ __/__ __/__ __

Date of Encounter: (MM DD YY) __ __/__ __/__ __

Clinician #1 Code: __ __ __ __ __ __ Clinician #2 Code: __ __ __ __ __ __

Site Code: _____ Type Code: _____

Visit classification:

(1) Routine initial visit (3) Emergency initial visit (clinical)

(2) 72-Hour initial visit (4) Emergency initial visit (admin.)

==========

FAMILY HISTORY

Sibling Order (e.g., 1st of 3) __ __ __ of __ __ __

Adopted? Yes No

Family background (check all that apply)

Intact	Marked by divorce
Stable	Marked by death of mother
Disruptive	Marked by death of father
Marked by separation	Suicide

Comments: _____

Parents: (Check all that apply)

	Mother/Female Guardian	Father/Male Guardian
Warm	____	____
Loving	____	____
Cold	____	____
Aloof	____	____
Physically abusive	____	____
Sexually abusive	____	____
Alcoholic	____	____
Mentally ill	____	____

Comments: _____

==========

Figure 3

CHILDHOOD HISTORY

Childhood Behavior Problems: (Check all that apply)

Sleepwalking	Phobias
Bedwetting	Running away from home
Tantrums	Juvenile arrests
Hyperactivity	Juvenile detentions
Nightmares	Delinquency

Comments: _____

SCHOOL HISTORY

Academic Performance in School: (Check one)

Poor	Good
Average	Excellent

History of learning problems: (Check all that apply)

Learning disability	Repeated grade
Special education classes	No history of learning problems

Comments: _____

Education level: (check highest level completed)

Ninth grade or below

Tenth or eleventh grade

High school graduate

GED

College graduate

Reason for leaving school (if other than graduation):

_____

History of: (Check all that apply)

Rebellious behavior	Truancy
Authority conflicts	Fighting
Expulsions	Suspension(s)
Good adjustment	
Participated in extracurricular activities	
Rarely participated in extracurricular activities	

Comments: _____

ADJUSTMENT HISTORY

Interpersonal Adjustment/Relationships: (Check all that apply)

Good social adjustment	Unstable
Poor social adjustment	Intense
Healthy	Transient
Unhealthy	Lasting relationships
Stable	

Comments: _____

Figure 3 (Cont'd)

Personality Characteristics: (Check all that apply)

Shy	Unemotional
Withdrawn	Unable to relax
Avoidant	Suspicious
Outgoing	Sensitive to criticism
Friendly	Demanding
Dependent	Egocentric
Independent	Empathetic
Oversensitive	Lack of empathy
Confident	Patient
Lacking confidence	Impatient
Low self-esteem	Easy going
Passive aggressive	Impulsive
Stubborn	Honest
Perfectionistic	Dishonest
Moody	Decisive
Emotional	Indecisive

Comments: _____

==========

CIVILIAN ARRESTS

Arrests: (Check one)

History of arrests

No history of arrests

Current civilian charges pending

==========

PAST VOCATIONAL HISTORY

Stability: (Check one)

Stable

Reasonably Stable

Unstable

Job History Reflects: (Check all that apply)

Ambition

Lack of ambition

Conflict with peers

Good relationships with peers

Conflict with authority

Good relationships with authority figures

Comments: _____

==========

Figure 3 (Cont'd)

PRIOR PSYCHIATRIC HISTORY

History of: (Check all that apply)

Outpatient psychiatric care

Psychiatric hospitalized

Suicide thoughts

Suicide gesture

Suicide attempt

Comments: _____

==========

RELEVANT MEDICAL HISTORY

CURRENT MEDICAL PROBLEMS:

No

Yes

If "Yes" explain: _____

_____

PAST MEDICAL PROBLEMS:

No

Yes

If "Yes" explain: _____

_____

Current Medications:

No

Yes

If "Yes" list medications: _____

History of head trauma:

No

Yes, no loss of consciousness

Yes, loss of consciousness

If "Yes", explain: _____

_____

_____

DRUG/ALCOHOL HISTORY

Degree of Involvement: (Check one from each category)

	Alcohol Use		Drug Use	
	Current	Past	Current	Past
None	_____	_____	_____	_____
Mild	_____	_____	_____	_____
Moderate	_____	_____	_____	_____
Excessive use	_____	_____	_____	_____

Figure 3 (Cont'd)

Related Problem: (Check all that apply)

	Alcohol Related	Drug Related
Military discipline	____	____
Civilian arrests	____	____
Motor vehicle accidents	____	____
Other accidents	____	____
Blackouts	____	____
Treatment	____	____

(Specify Treatment) _____

Comments: _____

CURRENT MARRIAGE AND FAMILY HISTORY

Length of Marriage ____ years Number of children ____

Current relationship with family: (Check all that apply)

Stable	Close
Chaotic	Distant
Supportive	Loving
Unsupportive	Destructive

Comments: _____

==========

MILITARY HISTORY

Overall Performance: (Check one)

Poor	Above average
Average	Exceptional

Comments: _____

Combat Duty:

No	Yes

Disciplinary Problems: (Check one in each category)

	NJP	Court Martial
None	____	____
One	____	____
Two	____	____
Three or more	____	____

Current Disciplinary Action Pending:

No	Yes

Reason for Enlisting: _____

Figure 3 (Cont'd)

and family history, and military history. By responding to specific items and adding textual comments, the form allows the clinician the flexibility to easily and rapidly produce a complete patient history.

Mental Status Examination

A primary objective of the NAMHIS project was to develop a standardized mental status examination (MSE).[8] A review of existing mental status examinations revealed no instrument that met the required functional specifications. However, due to its organization and content, the Missouri MSE[9] was deemed suitable to use as a starting point. A number of studies had shown its predictive validity,[10-12] and it could be tailored to fit Navy needs by adding to the content and making revisions to the format.

The development of the NAMHIS MSE module took place in two stages. First, the items in the Missouri MSE were reviewed for their relevance and contribution to the desired instrument. It was determined that all of the items were appropriate, but the MSE was considered incomplete for the intended purpose. Therefore, in the second stage, these sections were augmented. There were two primary reasons for adding items--to make the MSE more comprehensive and to provide the clinician with alternatives which described more adequately the clinical situations encountered in the military environment.

The NAMHIS MSE Form (see Figure 4) is divided into 14 sections: general appearance, motor activity, speech, interview behavior, flow of thought, mood and affect, suicide, homicide, content of thought, orientation, memory, intellect, insight and judgment, and comments. Each section is designed to encompass aspects of behavior found in the customary mental status report and to adequately describe observations of the patient. An index of severity was achieved by assigning a modifier of 1, 2, or 3. If all items within a section are within normal limits, the clinician can select the "Normal" alternative and continue to the next area being evaluated. If the items within a section do not adequately describe the clinical situation, the "other" category can be selected and the appropriate term or narrative description added.

The NAMHIS MSE provides a standardized and thorough protocol for evaluating and documenting the mental status of patients seen in mental health clinics. It is comprehensive yet concise, easy to administer, and includes items relevant to the Navy, allowing clinicians the flexibility to record and report unique and subtle characteristics of an individual's mental status.

Reporting Capability

NAMHIS has an extensive reporting capability consisting of both standardized and user-defined reports. The standardized reports fall into two categories--individual patient reports and statistical reports aggregated across multiple patients.

Individual patient reports include a display of patient registration data, a Report of Consultation, a printout of the patient's history, and a Mental Status Examination report. The Patient history and Mental Status Examination report are attached to the Report of Consultation and become a permanent part of the patient's medical record. These latter three reports can be produced for an initial visit or for a follow-up visit.

MENTAL STATUS EXAMINATION

NAVY MENTAL HEALTH INFORMATION SYSTEM (NAMHIS)

NAVAL HEALTH RESEARCH CENTER
SAN DIEGO, CALIFORNIA

NHRC-6520/30-S [12-84]

PATIENT NAME — Last / First / M. I. — SEX: ☐ M ☐ F

DATE OF BIRTH — Month / Day / Year

DATE OF ENCOUNTER — Month / Day / Year

SITE CODE: B

CLINICIAN NAME — Last / First

TYPE CODE: M

VISIT CLASSIFICATION

- ☐ 1. ROUTINE INITIAL VISIT
- ☐ 2. 72-HOUR INITIAL VISIT
- ☐ 3. EMERGENCY INITIAL VISIT (CLINICAL)
- ☐ 4. EMERGENCY INITIAL VISIT (ADMIN.)
- ☐ 5. ROUTINE FOLLOW-UP VISIT
- ☐ 6. EMERGENCY FOLLOW-UP VISIT

INSTRUCTIONS

For each section, check (X) box, or circle number for most appropriate answer(s).
If '(NORMAL)' is checked, simply go to the next section.
If not 'normal,' rate (on the following scale) pertinent items only.

1 = MILD / TO A SMALL EXTENT
2 = MODERATE / TO SOME EXTENT
3 = SEVERE / TO A GREAT EXTENT

1	GENERAL APPEARANCE (NORMAL)	[ ]
FACIAL EXPRESSION:		
2	CALM	1 2 3
3	CHEERFUL	1 2 3
4	SAD	1 2 3
5	EXPRESSIONLESS	1 2 3
6	HOSTILE	1 2 3
7	WORRIED	1 2 3
8	FRIGHTENED	1 2 3
9	PERPLEXED	1 2 3
10	PREOCCUPIED	1 2 3
11	PERSPIRING	1 2 3
12	AVOIDS GAZE	1 2 3
13	APPEARS YOUNGER	1 2 3
14	APPEARS OLDER	1 2 3
DRESS:		
15	METICULOUS	1 2 3
16	CLOTHING, HYGIENE POOR	1 2 3
17	WELL GROOMED	1 2 3
18	ECCENTRIC	1 2 3
19	SEDUCTIVE	1 2 3
20	OTHER:_____	
21	MOTOR ACTIVITY (NORMAL)	[ ]
22	INCREASED AMOUNT	1 2 3
23	DECREASED AMOUNT	1 2 3
24	AGITATION	1 2 3
25	TICS	1 2 3
26	TREMOR	1 2 3
27	PECULIAR POSTURING	1 2 3
28	UNUSUAL GAIT	1 2 3
29	REPETITIVE ACTS	1 2 3
30	OTHER:_____	
31	SPEECH (NORMAL)	[ ]
32	LOGICAL	1 2 3
33	COHERENT	1 2 3
34	ARTICULATE	1 2 3
35	EXCESSIVE AMOUNT	1 2 3
36	REDUCED AMOUNT	1 2 3
37	PUSH OF SPEECH	1 2 3
38	PRESSURED	1 2 3
39	SLOWED	1 2 3
40	RAPID	1 2 3
41	HESITANT	1 2 3
42	LOUD	1 2 3
43	SOFT	1 2 3
44	MUTE	1 2 3
45	SLURRED	1 2 3
46	STUTTERING	1 2 3
47	INCOHERENT	1 2 3
48	ECHOLALIA	1 2 3
49	OTHER:_____	
501	INTERVIEW BEHAVIOR (NORMAL)	[ ]
51	ANGRY OUTBURSTS	1 2 3
52	IRRITABLE	1 2 3
53	TENSE	1 2 3
54	IMPULSIVE	1 2 3
55	HOSTILE	1 2 3
56	COMBATIVE	1 2 3
57	SILLY	1 2 3
58	SENSITIVE	1 2 3
59	APATHETIC	1 2 3
60	WITHDRAWN	1 2 3
61	EVASIVE	1 2 3
62	DEFENSIVE	1 2 3
63	GUARDED	1 2 3
64	PASSIVE	1 2 3
65	AGGRESSIVE	1 2 3
66	NAIVE	1 2 3
67	OVERLY DRAMATIC	1 2 3
68	MANIPULATIVE	1 2 3
69	DEPENDENT	1 2 3
70	COOPERATIVE	1 2 3
71	UNCOOPERATIVE	1 2 3
72	DEMANDING	1 2 3
73	NEGATIVISTIC	1 2 3
74	CALLOUS	1 2 3
75	OTHER:_____	

Figure 4

76	FLOW OF THOUGHT (NORMAL)	[	]
77	GOAL DIRECTED	1	2 3
78	BLOCKING	1	2 3
79	SPONTANEITY	1	2 3
80	CIRCUMSTANTIAL	1	2 3
81	TANGENTIAL	1	2 3
82	PERSEVERATION	1	2 3
83	FLIGHT OF IDEAS	1	2 3
84	RAMBLING	1	2 3
85	LOOSE ASSOCIATION	1	2 3
86	INDECISIVE	1	2 3
87	DISTRACTIBLE	1	2 3
88	ILLOGICAL	1	2 3
89	OTHER:_____		
90	MOOD AND AFFECT (NORMAL)	[	]
91	DEPRESSED MOOD	1	2 3
92	ANXIOUS MOOD	1	2 3
93	EXPANSIVE MOOD	1	2 3
94	ELEVATED MOOD	1	2 3
95	SAD AFFECT	1	2 3
96	INAPPROPRIATE AFFECT	1	2 3
97	FLAT AFFECT	1	2 3
98	CONSTRICTED AFFECT	1	2 3
99	BLUNT AFFECT	1	2 3
100	SHALLOW AFFECT	1	2 3
101	EUPHORIC AFFECT	1	2 3
102	LABILE AFFECT	1	2 3
103	OTHER:_____		
104	SUICIDE (ABSENT)	[	]
105	THOUGHTS	1	2 3
106	PLANS	1	2 3
107	OTHER:_____		
108	HOMICIDE (ABSENT)	[	]
109	THOUGHTS	1	2 3
110	PLANS	1	2 3
111	OTHER:_____		
112	CONTENT OF THOUGHT (NORMAL)	[	]
113	ASSAULTIVE IDEAS	1	2 3
114	ANTISOCIAL ATTITUDES	1	2 3
115	SUSPICIOUSNESS	1	2 3
116	POVERTY OF CONTENT	1	2 3
117	PHOBIAS	1	2 3
118	OBSESSIONS/COMPULSIONS	1	2 3
119	FEELINGS OF UNREALITY	1	2 3
120	FEELS PERSECUTED	1	2 3
121	THOUGHTS OF RUNNING AWAY	1	2 3
122	SOMATIC COMPLAINTS	1	2 3
123	IDEAS OF GUILT	1	2 3
124	IDEAS OF HOPELESSNESS	1	2 3
125	IDEAS OF WORTHLESSNESS	1	2 3
126	EXCESSIVE RELIGIOSITY	1	2 3
127	SEXUAL PREOCCUPATION	1	2 3
128	BLAMES OTHERS	1	2 3
129	DEPERSONALIZATION	1	2 3
130	DEREALIZATION	1	2 3
131	ILLUSIONS PRESENT	1	2 3
132	AUDITORY HALLUCINATIONS	1	2 3
133	VISUAL HALLUCINATIONS	1	2 3
134	TACTILE HALLUCINATIONS	1	2 3
135	OTHER HALLUCINATIONS:	1	2 3
136	DELUSIONS OF PERSECUTION	1	2 3
137	DELUSIONS OF GRANDEUR	1	2 3
138	DELUSIONS OF REFERENCE	1	2 3
139	DELUSIONS OF INFLUENCE	1	2 3
140	SOMATIC DELUSIONS	1	2 3
141	OTHER DELUSIONS:_____	1	2 3
142	SYSTEMATIZED DELUSIONS	1	2 3
143	OTHER:_____		
144	ORIENTATION (NORMAL)	[	]
145	IMPAIRED TO TIME	1	2 3
146	IMPAIRED TO PLACE	1	2 3
147	IMPAIRED TO PERSON	1	2 3
148	OTHER:_____		
149	MEMORY (NORMAL)	[	]
150	ALERT	1	2 3
151	CLOUDING OF CONSCIOUSNESS	1	2 3
152	INABILITY TO CONCENTRATE	1	2 3
153	AMNESIA	1	2 3
154	GOOD IMMEDIATE RECALL	1	2 3
155	POOR IMMEDIATE RECALL	1	2 3
156	GOOD RECENT MEMORY	1	2 3
157	POOR RECENT MEMORY	1	2 3
158	GOOD REMOTE MEMORY	1	2 3
159	POOR REMOTE MEMORY	1	2 3
160	DIGIT SPAN DONE POORLY	1	2 3
161	CONFABULATION	1	2 3
162	OTHER:_____		
163	INTELLECT (NORMAL)	[	]
164	INTELLECT ABOVE NORMAL	1	2 3
165	INTELLECT BELOW NORMAL	1	2 3
166	PAUCITY OF KNOWLEDGE	1	2 3
167	VOCABULARY POOR	1	2 3
168	SERIAL SEVENS DONE POORLY	1	2 3
169	ABLE TO ABSTRACT	1	2 3
170	POOR ABSTRACTION	1	2 3
171	OTHER:_____		
172	INSIGHT & JUDGMENT (NORMAL)	[	]
173	GOOD INSIGHT	1	2 3
174	POOR INSIGHT	1	2 3
175	GOOD JUDGMENT	1	2 3
176	POOR JUDGMENT	1	2 3
177	GOOD IMPULSE CONTROL	1	2 3
178	POOR IMPULSE CONTROL	1	2 3
179	DENIAL	1	2 3
180	UNREALISTIC REGARDING DEGREE OF ILLNESS	1	2 3
181	DOES NOT KNOW WHY S/HE IS HERE	1	2 3
182	MOTIVATED FOR TREATMENT	1	2 3
183	UNMOTIVATED FOR TREATMENT	1	2 3
184	MOTIVATED FOR NAVY	1	2 3
185	UNMOTIVATED FOR NAVY	1	2 3
186	OTHER:_____		

COMMENTS: (BRC)

NHRC-6520/30-S [12-84]

Figure 4 (Cont'd)

The Report of Consultation serves at least two purposes: (1) it provides hard copy documentation of the patient's visit for clinic files and for the patient's medical record; and (2) it serves as a report to the referral source by presenting an essential distillation of the mental health consultation. This eliminates the need for clinicians to write out the report by hand. The standardized report and the concomitant data entry process insure that a core of critical data are presented and that the clinical evaluations necessary to arrive at that information were performed. Thus, adherence to quality assurance guidelines is virtually automatic. At the same time the flexibility needed to accommodate individual patient characteristics and circumstances is built into the report by allowing the insertion of textual comments at several locations.

Besides these individual patient reports, NAMHIS has the capability to generate summary statistical reports involving the entire patient population of a clinic. It was concluded that information concerning each clinic's patient population characteristics (e.g., demographics, presenting problems, treatment needs) would be helpful to clinic managers in deciding policy, selecting personnel, and designing treatment programs. Therefore, existing reporting requirements were met, and additional management information capabilities were developed. The three statistical reports used by Navy administrators of mental health care services are the Monthly Managerial Report, the Monthly Quality Assurance Report and the Monthly Outpatient Morbidity Report.

In addition to these seven standardized reports, the COSTAR Report Generator can be used to produce user-defined special reports. These might consist of lists of patients seen each day by a mental health clinic showing patients' work location (duty station), cross tabulations of problems and diagnoses by occupational groups or work environments, percentage of patients evidencing suicidal ideation or gestures, or percentage of patients recommended for discharge from the Navy. A whole host of research questions in mental health can be addressed by use of the Report Generator.

Future Plans

A software package of approximately 50 psychodiagnostic tests written in the MUMPS language has been developed by the Veterans Administration and is available from the VA. It is planned to interface this psychological testing module with NAMHIS so that selected psychological tests can be rapidly scored by computer and reports generated for use by clinicians in the mental health clinic setting.

NAMHIS will be implemented initially in one clinic in the San Diego region. After test and evaluation of the system in this operational environment, any needed modifications will be made to insure that NAMHIS functions as intended. Following this milestone, implementation of NAMHIS will be considered for all clinics in the San Diego region. Ultimately it is expected that NAMHIS will be recommended for Navywide implementation.

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The Navy Mental Health Information System, NAMHIS, is a comprehensive, automated recordkeeping and reporting system designed to meet the needs of clinicians and administrators in Outpatient Navy Mental Health Clinics. The public domain version of the Computer Stored Ambulatory Record, COSTAR, was extensively modified to fulfill the software requirements of NAMHIS and covers the five system functions: Patient Registration, Encounter Data, Patient History, Mental Status Examination and Reporting capability. Data collection forms have been developed along with standardized reports of individual patient/clinician consultations.

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